

AMENDMENT TO THE CLAIMS

Claim 1. (canceled)

Claim 2. (previously presented) A blending pump comprising:

a fluid motor having a fluid motor rotatable motive element positioned within a fluid motor open chamber on an interior of the fluid motor, a fluid motor inlet channel and a fluid motor outlet channel in fluid communication with the fluid motor open chamber, and a drive axle connected to the fluid motor rotatable motive element and extending through the fluid motor;

a fluid pump having a fluid pump rotatable motive element positioned within a fluid pump open chamber on an interior of the fluid pump, a fluid pump inlet channel and a fluid pump outlet channel in fluid communication with the fluid pump open chamber, the fluid pump rotatable motive element of the fluid pump being operatively connected to the drive axle such that torque generated by the fluid motor rotatable motive element is translated to the fluid pump rotatable motive element in the fluid pump; and

a valve controlling a recirculation channel in fluid communication with the fluid pump, wherein the fluid motor rotatable motive element and the fluid pump rotatable motive element provide a proportional fluid flow through the fluid motor and the fluid pump regardless of a rotation rate of the fluid motor rotatable motive element and a rotation rate of the fluid pump rotatable motive element.

Claim 3. (currently amended) The blending pump of claim 2, wherein the fluid motor rotatable motive element and fluid pump rotatable motive element are selected from the group consisting of a gear, a vane, a screw, [[or]] and a flexible rotor.

Claim 4. (previously presented) The blending pump of claim 2, wherein the fluid motor rotatable motive element includes a plurality of tapered teeth.

Claim 5. (previously presented) The blending pump of claim 3, wherein the fluid motor rotatable motive element and a fluid pump rotatable motive element have variable geometries relative to one another.

Claim 6. (previously presented) The blending pump of claim 2, wherein at least one of the fluid motor open chamber and fluid pump open chamber has at least one of a tapered configuration, rounded configuration, cone-shaped configuration, and crescent-shaped configuration.

Claim 7. (previously presented) The blending pump of claim 2, further comprising a first fluid source containing a pressurized first fluid connected to the fluid motor inlet channel and the fluid pump inlet channel is connected with a second fluid source.

Claim 8. (previously presented) The blending pump of claim 2, further comprising a seal for preventing leakage between the fluid motor open chamber and the fluid pump open chamber.

Claim 9. (previously presented) The blending pump of claim 2, wherein the re-circulation channel is in fluid communication with at least one of the fluid pump inlet channel and the fluid pump outlet channel.

Claim 10. (previously presented) The blending pump of claim 2, wherein the valve is a needle valve adjustable utilizing a valve stem.

Claim 11. (previously presented) The blending pump of claim 2, wherein the fluid pump is modular and removable from and connectable to one or more fluid motors.

Claim 12. (previously presented) The blending pump of claim 2, wherein the fluid pump is pivotally mounted to the fluid motor.

Claim 13. (previously presented) The blending pump of claim 2, further comprising a first drive train gear connected to the drive axle and operationally engaged with a second drive train gear connected to the fluid pump rotatable motive element by a pump drive axle.

Claim 14. (currently amended) A blending pump, comprising
a fluid motor having a fluid motor rotatable, tapered motive element positioned within a fluid motor open chamber on an interior of the fluid motor, a fluid motor inlet channel and a fluid motor outlet channel in fluid communication with the fluid motor open chamber, and a drive axle connected to the fluid motor rotatable motive element and extending through the fluid motor; and

a fluid pump having a fluid pump rotatable motive element positioned within a fluid pump open chamber on an interior of the fluid pump, a fluid pump inlet channel and a fluid pump outlet channel in fluid communication with the open chamber, the fluid pump rotatable motive element operatively connected to the drive axle such that torque generated by the fluid motor rotatable motive element is translated to the fluid pump rotatable motive element, and
a valve controlling a recirculation channel in fluid communication with the fluid pump open chamber,

wherein the fluid motor rotatable motive element and the fluid pump rotatable motive element provide a proportional fluid flow through the fluid motor and the fluid pump regardless of a rotation rate of the fluid motor rotatable motive element and a rotation rate of the fluid pump rotatable motive element.

Claim 15. (currently amended) The blending pump of claim 14, wherein the fluid pump rotatable motive element is selected from the group consisting of a gear, a vane, a screw, [[or]] and a flexible rotor.

Claim 16. (previously presented) The blending pump of claim 14, wherein the fluid motor rotatable, tapered motive element and the fluid pump rotatable motive element have variable geometries relative to one another.

Claim 17. (previously presented) The blending pump of claim 14, wherein at least one of the open chamber of the fluid motor and fluid pump is configured with at least one of a tapered

configuration, rounded configuration, cone-shaped configuration, and crescent-shaped configuration.

Claim 18. (previously presented) The blending pump of claim 14, further comprising a first fluid source containing a pressurized first fluid connected to the fluid motor inlet channel and the fluid pump inlet channel is connected with a second fluid source.

Claim 19. (previously presented) The blending pump of claim 14, further comprising a seal for preventing leakage between the fluid motor open chamber and the fluid pump open chamber.

Claim 20. (canceled)

Claim 21. (currently amended) The blending pump of ~~claim 20~~ claim 14, wherein the recirculation channel is in fluid communication with the fluid pump inlet channel and fluid pump outlet channel.

Claim 22. (previously presented) The blending pump of claim 14, wherein the valve is a needle valve adjustable utilizing a valve stem.

Claim 23. (currently amended) The blending pump of claim 14, wherein the fluid pump is modular and ~~may be removed~~ removable from and ~~connected~~ connectable to one or more fluid motors.

Claim 24. (previously presented) The blending pump of claim 14, wherein the fluid pump is pivotally mounted to the fluid motor.

Claim 25. (previously presented) The blending pump of claim 14, further comprising a first drive train gear connected to the drive axle and operationally engaged with a second drive train gear connected to the fluid pump rotatable motive element by a pump drive axle.

Claim 26. (currently amended) A system for blending fluids, comprising:

a first fluid source providing a first fluid with a flow rate, the first fluid source connected through a fluid motor inlet channel to a fluid motor open chamber within an interior of a fluid motor, the fluid motor open chamber in fluid communication with a fluid motor outlet channel and having a fluid motor rotatable motive element connected with a drive axle, the flow rate providing a driving force for the fluid motor rotatable motive element;

a second fluid source providing a second fluid, the second fluid source connected through a fluid pump inlet channel to a fluid pump open chamber positioned within an interior of a fluid pump, the fluid pump open chamber in fluid communication with a fluid pump outlet channel and having a fluid pump rotatable motive element operatively connected to the drive axle such that torque generated by the fluid motor rotatable motive element is translated to the fluid pump rotatable motive element; and

a valve for controlling a recirculation channel in fluid communication with the fluid pump open chamber,

wherein the fluid motor rotatable motive element and the fluid pump rotatable motive element provide a proportional fluid flow of the first fluid through the fluid motor relative to the

flow of the second fluid through fluid pump regardless of a rotation rate of the fluid motor rotatable motive element and a rotation rate of the fluid pump rotatable motive element~~[[.]],~~ and

wherein the first and second fluid are blended together through a fluid communication between the fluid motor outlet channel and the fluid pump outlet channel.

Claim 27. (currently amended) The system of claim 26, wherein the fluid motor rotatable motive element and fluid pump rotatable motive element are selected from the group consisting of a gear, a vane, a screw, ~~[[or]]~~ and a flexible rotor.

Claim 28. (previously presented) The system of claim 26, wherein the fluid motor rotatable motive element and fluid pump rotatable motive element include a plurality of tapered teeth.

Claim 29. (previously presented) The system of claim 26, wherein the fluid motor rotatable motive element and the fluid pump rotatable motive element have variable geometries relative to one another.

Claim 30. (previously presented) The system of claim 26, wherein at least one of the fluid motor open chamber and fluid pump open chamber has at least one of a tapered configuration, rounded configuration, cone-shaped configuration, and crescent-shaped configuration.

Claim 31. (previously presented) The system of claim 26, further comprising a seal for preventing leakage between the fluid motor open chamber and the fluid pump open chamber.

Claim 32. (previously presented) The system of claim 26, wherein the re-circulation channel is in fluid communication with the fluid pump inlet channel and the fluid pump outlet channel.

Claim 33. (previously presented) The system of claim 26, wherein the valve is a needle valve adjustable utilizing a valve stem.

Claim 34. (previously presented) The system of claim 26, wherein the fluid pump is modular and removable from and connectable to one or more fluid motors.

Claim 35. (previously presented) The system of claim 26, wherein the fluid pump is pivotally mounted to the fluid motor.

Claim 36. (previously presented) The system of claim 26, further comprising a first drive train gear connected to the drive axle and operationally engaged with a second drive train gear connected to the fluid pump rotatable motive element by a pump drive axle.